REMARKS/ARGUMENT

Claims 2-11, 16, 19, 20, 27, 28 and 31 are allowed.

Claims 22-26, 29 and 30 stand rejected under 35 U.S.C. § 101 "because the claimed invention is directed to non-statutory subject matter". Applicants traverse this rejection for the reasons set forth below.

Based on U.S. Supreme Court precedent (*Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876) and recent Federal Circuit decisions, a § 101 process must (1) be tied to another statutory class (such as a particular apparatus) **OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing** (The Supreme Court recognized that his test is not necessarily fixed or permanent and may evolve with technological advances. *Gottschalk v. Benson*, 409 U.S. 63, 71 (1972).

Independent Claim 22 requires and positively recites, a method of **calibrating a predistortion component in a transceiver system**, comprising: "providing a first digital signal, containing amplitude information related to a desired analog signal, to a transmitter path", "providing a second digital signal, containing phase information related to the desired analog signal, to the transmitter path", "**predistorting at least one of the first digital signal and the second digital signal in the digital domain according to at least one predistortion parameter**", "**generating an analog signal from the first digital signal and the second digital signal**", "**processing the analog signal at a receiver path associated with the transmitter path to determine values for the at least one predistortion parameter**" and "**converting the first digital signal and the second digital signal from associated normalized domains to process, voltage, and temperature (PVT) dependent domains**".

The preamble of Claim 22 recites, "a method of **calibrating a predistortion component in a transceiver system**". This is clearly a tie-in of the method to an apparatus which is a recognized statutory class. The above language clearly ties the method to another statutory class (such as a particular apparatus) which qualifies under Supreme Court and Federal Circuit precedent "(1) be tied to another statutory class (such as a particular apparatus) above as being an eligible process under 35 U.S.C. § 101. For this reason alone the 35 U.S.C. § 101 rejection of Claim 22 is improper and must be withdrawn.

In the event Examiner determines not to give any patentable weight to the preamble, Applicants respond as follows:

The determination of whether a preamble limits a claim is made on a case-by-case basis in light of the facts in each case; there is no litmus test defining when a preamble limits the scope of a claim. *Catalina Mktg. Int'l v. Coolsavings.com, Inc.*, 289 F.3d 801, 808, 62 USPQ2d 1781, 1785 (Fed. Cir. 2002). See *id.* at 808-10, 62 USPQ2d at 1784-86 for a discussion of guideposts that have emerged from various decisions exploring the preamble's effect on claim scope, as well as a hypothetical example illustrating these principles.

"[A] Claim preamble has the import that the claim as a whole suggests for it." *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620, 34 USPQ2d 1816, 1820 (Fed. Cir. 1995). "If the claim preamble, when read in the context of the entire claim, **recites limitations of the claim**, or, if the claim preamble is **'necessary to give life, meaning, and vitality' to the claim, then the claim preamble should be construed as if in the balance of the claim**." *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165-66 (Fed. Cir. 1999). See also *Jansen v. Rexall Sundown, Inc.*, 342 F.3d 1329, 1333, 68 USPQ2d 1154, 1158 (Fed. Cir. 2003)(In considering the effect of the preamble in a claim directed to a method of treating or preventing pernicious anemia in humans by administering a certain vitamin preparation to "a human in need thereof," the court held that the claims' recitation of a patient or a human "in need" gives life and meaning to the preamble's

statement of purpose.). *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951) (A preamble reciting "An abrasive article" was deemed essential to point out the invention defined by claims to an article comprising abrasive grains and a hardened binder and the process of making it. The court stated "it is only by that phrase that it can be known that the subject matter defined by the claims is comprised as an abrasive article. Every union of substances capable *inter alia* of use as abrasive grains and a binder is not an 'abrasive article.'" Therefore, the preamble served to further define the structure of the article produced.).

Any terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation. See, e.g., *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989) (The determination of whether preamble recitations are structural limitations can be resolved **only on review of the entirety of the application "to gain an understanding of what the inventors actually invented and intended to encompass by the claim.**"); *Pac-Tec Inc. v. Amerace Corp.*, 903 F.2d 796, 801, 14 USPQ2d 1871, 1876 (Fed. Cir. 1990) (determining that preamble language that constitutes a structural limitation is actually part of the claimed invention). See also *In re Stencel*, 828 F.2d 751, 4 USPQ2d 1071 (Fed. Cir. 1987). (The claim at issue was directed to a driver for setting a joint of a threaded collar*>;< however>,< the body of the claim did not directly include the structure of the collar as part of the claimed article. The examiner did not consider the preamble, which did set forth the structure of the collar, as limiting the claim. The court found that the collar structure could not be ignored. While the claim was not directly limited to the collar, the collar structure recited in the preamble did limit the structure of the driver. "[T]he framework - the teachings of the prior art - against which patentability is measured is not all drivers broadly, but drivers suitable for use in combination with this collar, for the claims are so limited." Id. at 1073, 828 F.2d at 754.).

Being that the novelty of the present invention is directed to a method of **calibrating a predistortion component in a transceiver system,** the preamble limits the structure of the claimed invention and must be treated as a claim limitation. See, e.g., *Corning Glass Works v.*

Sumitomo Elec. U.S.A., Inc., 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989).

In addition to the above, the limitation in Claim 22, "**predistorting at least one of the first digital signal and the second digital signal in the digital domain according to at least one predistortion parameter**" clearly sets forth a "transforming" step - "predistorting at least one of the first digital signal and the second digital signal in the digital domain according to at least one predistortion parameter". This limitation clearly recites a transformation which qualifies under Supreme Court precedent "**OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing**" above as being an eligible process under 35 U.S.C. § 101. For this reason alone, or in combination with the above argument, the 35 U.S.C. § 101 rejection of Claim 22 is improper and must be withdrawn.

In addition to the above, the additional limitation in Claim 22, "**generating an analog signal from the first digital signal and the second digital signal**", similarly sets forth a "transforming" step - "generating an analog signal from the first digital signal and the second digital signal". This additional limitation clearly recites a transformation which qualifies under Supreme Court precedent "**OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing**" above as being an eligible process under 35 U.S.C. § 101. For this reason alone, or in combination with the above argument, the 35 U.S.C. § 101 rejection of Claim 22 is improper and must be withdrawn.

In addition to the above, the additional limitation in Claim 22, "**processing the analog signal at a receiver path associated with the transmitter path to determine values for the at least one predistortion parameter**", similarly sets forth a "transforming" step - "processing the analog signal ... to determine values for the at least one predistortion parameter". This additional limitation clearly recites a transformation which qualifies under Supreme Court precedent "**OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing**" above as being an eligible process under 35 U.S.C. § 101. For this

reason alone, or in combination with the above arguments, the 35 U.S.C. § 101 rejection of Claim 22 is improper and must be withdrawn.

In addition to the above, the additional limitation in Claim 22, "**converting the first digital signal and the second digital signal from associated normalized domains to process, voltage, and temperature (PVT) dependent domains**", similarly sets forth a "transforming" step - "converting the first digital signal and the second digital signal from associated normalized domains to process, voltage, and temperature (PVT) dependent domains". This additional limitation clearly recites a transformation which qualifies under Supreme Court precedent "**OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing**" above as being an eligible process under 35 U.S.C. § 101. For this reason alone, or in combination with the above arguments, the 35 U.S.C. § 101 rejection of Claim 22 is improper and must be withdrawn.

Independent Claim 23 requires and positively recites, a method of **calibrating a predistortion component in a transceiver system**, comprising: "providing a first digital signal, containing amplitude information related to a desired analog signal, to a transmitter path", "providing a second digital signal, containing phase information related to the desired analog signal, to the transmitter path", "**predistorting at least one of the first digital signal and the second digital signal in the digital domain according to at least one predistortion parameter**", "**generating an analog signal from the first digital signal and the second digital signal**", "**processing the analog signal at a receiver path associated with the transmitter path to determine values for the at least one predistortion parameter**" and "**adjusting the value of the first digital signal to switch an associated power amplifier from a linear mode of operation to a saturated mode of operation**".

The preamble of Claim 23 recites, "a method of **calibrating a predistortion component in a transceiver system**". This is clearly a tie-in of the method to an apparatus which is a

recognized statutory class. The above language clearly ties the method to another statutory class (such as a particular apparatus) which qualifies under Supreme Court and Federal Circuit precedent "(1) be tied to another statutory class (such as a particular apparatus) above as being an eligible process under 35 U.S.C. § 101. For this reason alone the 35 U.S.C. § 101 rejection of Claim 23 is improper and must be withdrawn.

In the event Examiner determines not to give any patentable weight to the preamble, Applicants respond as follows:

The determination of whether a preamble limits a claim is made on a case-by-case basis in light of the facts in each case; there is no litmus test defining when a preamble limits the scope of a claim. *Catalina Mktg. Int'l v. Coolsavings.com, Inc.*, 289 F.3d 801, 808, 62 USPQ2d 1781, 1785 (Fed. Cir. 2002). See *id.* at 808-10, 62 USPQ2d at 1784-86 for a discussion of guideposts that have emerged from various decisions exploring the preamble's effect on claim scope, as well as a hypothetical example illustrating these principles.

"[A] Claim preamble has the import that the claim as a whole suggests for it." *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620, 34 USPQ2d 1816, 1820 (Fed. Cir. 1995). "If the claim preamble, when read in the context of the entire claim, **recites limitations of the claim**, or, if the claim preamble is **'necessary to give life, meaning, and vitality' to the claim, then the claim preamble should be construed as if in the balance of the claim**." *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165-66 (Fed. Cir. 1999). See also *Jansen v. Rexall Sundown, Inc.*, 342 F.3d 1329, 1333, 68 USPQ2d 1154, 1158 (Fed. Cir. 2003)(In considering the effect of the preamble in a claim directed to a method of treating or preventing pernicious anemia in humans by administering a certain vitamin preparation to "a human in need thereof," the court held that the claims' recitation of a patient or a human "in need" gives life and meaning to the preamble's statement of purpose.). *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951) (A preamble reciting "An abrasive article" was deemed essential to point out the invention defined

by claims to an article comprising abrasive grains and a hardened binder and the process of making it. The court stated "it is only by that phrase that it can be known that the subject matter defined by the claims is comprised as an abrasive article. Every union of substances capable *inter alia* of use as abrasive grains and a binder is not an 'abrasive article.'" Therefore, the preamble served to further define the structure of the article produced.).

Any terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation. See, e.g., Corning Glass Works v. Sumitomo Elec. U.S.A., Inc., 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989) (The determination of whether preamble recitations are structural limitations can be resolved **only on review of the entirety of the application "to gain an understanding of what the inventors actually invented and intended to encompass by the claim.**"); Pac-Tec Inc. v. Amerace Corp., 903 F.2d 796, 801, 14 USPQ2d 1871, 1876 (Fed. Cir. 1990) (determining that preamble language that constitutes a structural limitation is actually part of the claimed invention). See also In re Stencel, 828 F.2d 751, 4 USPQ2d 1071 (Fed. Cir. 1987). (The claim at issue was directed to a driver for setting a joint of a threaded collar*>;< however>,< the body of the claim did not directly include the structure of the collar as part of the claimed article. The examiner did not consider the preamble, which did set forth the structure of the collar, as limiting the claim. The court found that the collar structure could not be ignored. While the claim was not directly limited to the collar, the collar structure recited in the preamble did limit the structure of the driver. "[T]he framework - the teachings of the prior art - against which patentability is measured is not all drivers broadly, but drivers suitable for use in combination with this collar, for the claims are so limited." Id. at 1073, 828 F.2d at 754.).

Being that the novelty of the present invention is directed to a method of **calibrating a predistortion component in a transceiver system**, the preamble limits the structure of the claimed invention and must be treated as a claim limitation. See, e.g., Corning Glass Works v. Sumitomo Elec. U.S.A., Inc., 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989).

In addition to the above, the limitation in Claim 23, "**predistorting at least one of the first digital signal and the second digital signal in the digital domain according to at least one predistortion parameter**" clearly sets forth a "transforming" step - "predistorting at least one of the first digital signal and the second digital signal in the digital domain according to at least one predistortion parameter". This limitation clearly recites a transformation which qualifies under Supreme Court precedent "**OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing**" above as being an eligible process under 35 U.S.C. § 101. For this reason alone, or in combination with the above argument, the 35 U.S.C. § 101 rejection of Claim 23 is improper and must be withdrawn.

In addition to the above, the additional limitation in Claim 23, "**generating an analog signal from the first digital signal and the second digital signal**", similarly sets forth a "transforming" step - "generating an analog signal from the first digital signal and the second digital signal". This additional limitation clearly recites a transformation which qualifies under Supreme Court precedent "**OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing**" above as being an eligible process under 35 U.S.C. § 101. For this reason alone, or in combination with the above argument, the 35 U.S.C. § 101 rejection of Claim 23 is improper and must be withdrawn.

In addition to the above, the additional limitation in Claim 23, "**processing the analog signal at a receiver path associated with the transmitter path to determine values for the at least one predistortion parameter**", similarly sets forth a "transforming" step - "processing the analog signal ... to determine values for the at least one predistortion parameter". This additional limitation clearly recites a transformation which qualifies under Supreme Court precedent "**OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing**" above as being an eligible process under 35 U.S.C. § 101. For this reason alone, or in combination with the above arguments, the 35 U.S.C. § 101 rejection of Claim 23 is improper and must be withdrawn.

In addition to the above, the additional limitation in Claim 23, "**adjusting the value of the first digital signal to switch an associated power amplifier from a linear mode of operation to a saturated mode of operation**", similarly sets forth a "transforming" step - "adjusting the value of the first digital signal ...". This additional limitation clearly recites a transformation which qualifies under Supreme Court precedent "**OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing**" above as being an eligible process under 35 U.S.C. § 101. For this reason alone, or in combination with the above arguments, the 35 U.S.C. § 101 rejection of Claim 23 is improper and must be withdrawn.

In addition to the above, the additional language, "adjusting the value of the first digital signal **to switch an associated power amplifier from a linear mode of operation to a saturated mode of operation**", clearly ties the method to another statutory class (such as a particular apparatus) which qualifies under Supreme Court and Federal Circuit precedent "(1) be tied to another statutory class (such as a particular apparatus) above as being an eligible process under 35 U.S.C. § 101. For this reason alone, or in combination with the above arguments, the 35 U.S.C. § 101 rejection of Claim 23 is improper and must be withdrawn.

Independent Claim 24 requires and positively recites, **an integrated transceiver circuit**, comprising: "means for producing a digital input", "means for **predistorting the digital input to mitigate nonlinear error associated with a power amplifier** according to one or more predistortion parameters", "means for **converting the digital input from a normalized domain to a process, voltage, and temperature (PVT) dependent domain**", "means for **generating an analog signal from the digital input**" and "means for analyzing the analog signal to **determine appropriate predistortion parameters for the means for predistorting**".

The preamble of Claim 24 recites, "**an integrated transceiver circuit**". An "integrated transceiver circuit" is clearly a "particular apparatus", which is a recognized statutory class. For this reason alone the 35 U.S.C. § 101 rejection of Claim 24 is improper and must be withdrawn.

In the event Examiner determines not to give any patentable weight to the preamble, Applicants respond as follows:

The determination of whether a preamble limits a claim is made on a case-by-case basis in light of the facts in each case; there is no litmus test defining when a preamble limits the scope of a claim. Catalina Mktg. Int'l v. Coolsavings.com, Inc., 289 F.3d 801, 808, 62 USPQ2d 1781, 1785 (Fed. Cir. 2002). See id. at 808-10, 62 USPQ2d at 1784-86 for a discussion of guideposts that have emerged from various decisions exploring the preamble's effect on claim scope, as well as a hypothetical example illustrating these principles.

"[A] Claim preamble has the import that the claim as a whole suggests for it." Bell Communications Research, Inc. v. Vitalink Communications Corp., 55 F.3d 615, 620, 34 USPQ2d 1816, 1820 (Fed. Cir. 1995). "If the claim preamble, when read in the context of the entire claim, **recites limitations of the claim**, or, if the claim preamble is **'necessary to give life, meaning, and vitality' to the claim, then the claim preamble should be construed as if in the balance of the claim**." Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165-66 (Fed. Cir. 1999). See also Jansen v. Rexall Sundown, Inc., 342 F.3d 1329, 1333, 68 USPQ2d 1154, 1158 (Fed. Cir. 2003)(In considering the effect of the preamble in a claim directed to a method of treating or preventing pernicious anemia in humans by administering a certain vitamin preparation to "a human in need thereof," the court held that the claims' recitation of a patient or a human "in need" gives life and meaning to the preamble's statement of purpose.). Kropa v. Robie, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951) (A preamble reciting "An abrasive article" was deemed essential to point out the invention defined by claims to an article comprising abrasive grains and a hardened binder and the process of making it. The court stated "it is only by that phrase that it can be known that the subject matter defined by the claims is comprised as an abrasive article. Every union of substances capable *inter alia* of use as abrasive grains and a binder is not an 'abrasive article.'" Therefore, the preamble served to further define the structure of the article produced.).

Any terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation. See, e.g., *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989) (The determination of whether preamble recitations are structural limitations can be resolved **only on review of the entirety of the application "to gain an understanding of what the inventors actually invented and intended to encompass by the claim.**"); *Pac-Tec Inc. v. Amerace Corp.*, 903 F.2d 796, 801, 14 USPQ2d 1871, 1876 (Fed. Cir. 1990) (determining that preamble language that constitutes a structural limitation is actually part of the claimed invention). See also *In re Stencel*, 828 F.2d 751, 4 USPQ2d 1071 (Fed. Cir. 1987). (The claim at issue was directed to a driver for setting a joint of a threaded collar*>;< however>,< the body of the claim did not directly include the structure of the collar as part of the claimed article. The examiner did not consider the preamble, which did set forth the structure of the collar, as limiting the claim. The court found that the collar structure could not be ignored. While the claim was not directly limited to the collar, the collar structure recited in the preamble did limit the structure of the driver. "[T]he framework - the teachings of the prior art - against which patentability is measured is not all drivers broadly, but drivers suitable for use in combination with this collar, for the claims are so limited." Id. at 1073, 828 F.2d at 754.).

Being that the novelty of the present invention is directed to "**an integrated transceiver circuit**", the preamble limits the structure of the claimed invention and must be treated as a claim limitation. See, e.g., *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989).

But even if, arguendo, somehow "**an integrated transceiver circuit**" could be interpreted to not be an "apparatus", it would still clearly be a tie-in of the method to an apparatus which is a recognized statutory class. The above language clearly ties the method to another statutory class (such as a particular apparatus) which qualifies under Supreme Court and Federal Circuit precedent "(1) be tied to another statutory class (such as a particular apparatus) above as being an eligible process under 35 U.S.C. § 101.

In addition to the above, the limitation in Claim 24, "... **predistorting the digital input to mitigate nonlinear error associated with a power amplifier** according to one or more predistortion parameters" clearly sets forth a "transforming" step - "predistorting the digital input to mitigate nonlinear error associated with a power amplifier according to one or more predistortion parameters". This limitation clearly recites a transformation which qualifies under Supreme Court precedent "**OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing**" above as being an eligible process under 35 U.S.C. § 101. For this reason alone, or in combination with the above argument, the 35 U.S.C. § 101 rejection of Claim 24 is improper and must be withdrawn.

In addition to the above, the additional limitation in Claim 24, "... **converting the digital input from a normalized domain to a process, voltage, and temperature (PVT) dependent domain**", similarly sets forth a "transforming" step - "converting the digital input from a normalized domain to a process, voltage, and temperature (PVT) dependent domain". This additional limitation clearly recites a transformation which qualifies under Supreme Court precedent "**OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing**" above as being an eligible process under 35 U.S.C. § 101. For this reason alone, or in combination with the above argument, the 35 U.S.C. § 101 rejection of Claim 24 is improper and must be withdrawn.

In addition to the above, the additional limitation in Claim 24, "... means for **generating an analog signal from the digital input**", similarly sets forth a "transforming" step - "generating an analog signal from the digital input". This additional limitation clearly recites a transformation which qualifies under Supreme Court precedent "**OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing**" above as being an eligible process under 35 U.S.C. § 101. For this reason alone, or in combination with the above arguments, the 35 U.S.C. § 101 rejection of Claim 24 is improper and must be withdrawn.

In addition to the above, the additional limitation in Claim 24, "**determine appropriate predistortion parameters for the means for predistorting**", similarly sets forth a "transforming" step - "determine appropriate predistortion parameters". This additional limitation clearly recites a transformation which qualifies under Supreme Court precedent "**OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing**" above as being an eligible process under 35 U.S.C. § 101. For this reason alone, or in combination with the above arguments, the 35 U.S.C. § 101 rejection of Claim 24 is improper and must be withdrawn.

Claim 25 further defines the circuit of Claim 24, the means for generating the analog signal comprising means for **synthesizing a radio frequency signal from a digital input**. Claim 25 depends from Claim 24 and stands allowable for the same reasons set forth above in support of the allowability of Claim 24. Moreover, Claim 25 contains an additional limitation not recited in Claim 24. The additional limitation in Claim 25, "means for generating the analog signal comprising means for **synthesizing a radio frequency signal from a digital input**", similarly sets forth a "transforming" step - "synthesizing a radio frequency signal from a digital input". This additional limitation clearly recites a transformation which qualifies under Supreme Court precedent "**OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing**" above as being an eligible process under 35 U.S.C. § 101. For this reason alone, or in combination with the above arguments, the 35 U.S.C. § 101 rejection of Claim 25 is improper and must be withdrawn.

Claim 26 further defines the circuit of Claim 24, the means for analyzing the analog signal including means for **applying a direct current (DC) offset to the signal**. Claim 26 depends from Claim 24 and stands allowable for the same reasons set forth above in support of the allowability of Claim 24. Moreover, Claim 26 contains an additional limitation not recited in Claim 24. The additional limitation in Claim 26, "means for analyzing the analog signal including means for **applying a direct current (DC) offset to the signal**", similarly sets forth a "transforming" step - "applying a direct current (DC) offset to the signal". This additional

limitation clearly recites a transformation which qualifies under Supreme Court precedent "**OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing**" above as being an eligible process under 35 U.S.C. § 101. For this reason alone, or in combination with the above arguments, the 35 U.S.C. § 101 rejection of Claim 26 is improper and must be withdrawn.

Independent Claim 29 requires and positively recites, a method of **calibrating a predistortion component in a transceiver system**, comprising: "providing a first digital signal, containing amplitude information related to a desired analog signal, to a transmitter path", "providing a second digital signal, containing phase information related to the desired analog signal, to the transmitter path", "**predistorting at least one of the first digital signal and the second digital signal in the digital domain according to at least one predistortion parameter**", "**generating an analog signal from the first digital signal and the second digital signal**" and "**processing the analog signal at a receiver path associated with the transmitter path to determine values for the at least one predistortion parameter and estimate spectral regrowth of the analog signal**".

The preamble of Claim 29 recites, "a method of **calibrating a predistortion component in a transceiver system**". This is clearly a tie-in of the method to an apparatus which is a recognized statutory class. The above language clearly ties the method to another statutory class (such as a particular apparatus) which qualifies under Supreme Court and Federal Circuit precedent "(1) be tied to another statutory class (such as a particular apparatus) above as being an eligible process under 35 U.S.C. § 101. For this reason alone the 35 U.S.C. § 101 rejection of Claim 29 is improper and must be withdrawn.

In the event Examiner determines not to give any patentable weight to the preamble, Applicants respond as follows:

The determination of whether a preamble limits a claim is made on a case-by-case basis in light of the facts in each case; there is no litmus test defining when a preamble limits the scope of a claim. Catalina Mktg. Int'l v. Coolsavings.com, Inc., 289 F.3d 801, 808, 62 USPQ2d 1781, 1785 (Fed. Cir. 2002). See id. at 808-10, 62 USPQ2d at 1784-86 for a discussion of guideposts that have emerged from various decisions exploring the preamble's effect on claim scope, as well as a hypothetical example illustrating these principles.

"[A] Claim preamble has the import that the claim as a whole suggests for it." Bell Communications Research, Inc. v. Vitalink Communications Corp., 55 F.3d 615, 620, 34 USPQ2d 1816, 1820 (Fed. Cir. 1995). "If the claim preamble, when read in the context of the entire claim, **recites limitations of the claim**, or, if the claim preamble is **'necessary to give life, meaning, and vitality' to the claim, then the claim preamble should be construed as if in the balance of the claim**." Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165-66 (Fed. Cir. 1999). See also Jansen v. Rexall Sundown, Inc., 342 F.3d 1329, 1333, 68 USPQ2d 1154, 1158 (Fed. Cir. 2003)(In considering the effect of the preamble in a claim directed to a method of treating or preventing pernicious anemia in humans by administering a certain vitamin preparation to "a human in need thereof," the court held that the claims' recitation of a patient or a human "in need" gives life and meaning to the preamble's statement of purpose.). Kropa v. Robie, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951) (A preamble reciting "An abrasive article" was deemed essential to point out the invention defined by claims to an article comprising abrasive grains and a hardened binder and the process of making it. The court stated "it is only by that phrase that it can be known that the subject matter defined by the claims is comprised as an abrasive article. Every union of substances capable *inter alia* of use as abrasive grains and a binder is not an 'abrasive article.'" Therefore, the preamble served to further define the structure of the article produced.).

Any terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation. See, e.g., Corning Glass Works v. Sumitomo Elec. U.S.A., Inc., 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989) (The determination of

whether preamble recitations are structural limitations can be resolved **only on review of the entirety of the application "to gain an understanding of what the inventors actually invented and intended to encompass by the claim.**"); *Pac-Tec Inc. v. Amerace Corp.*, 903 F.2d 796, 801, 14 USPQ2d 1871, 1876 (Fed. Cir. 1990) (determining that preamble language that constitutes a structural limitation is actually part of the claimed invention). See also *In re Stencel*, 828 F.2d 751, 4 USPQ2d 1071 (Fed. Cir. 1987). (The claim at issue was directed to a driver for setting a joint of a threaded collar*>;< however>,< the body of the claim did not directly include the structure of the collar as part of the claimed article. The examiner did not consider the preamble, which did set forth the structure of the collar, as limiting the claim. The court found that the collar structure could not be ignored. While the claim was not directly limited to the collar, the collar structure recited in the preamble did limit the structure of the driver. "[T]he framework - the teachings of the prior art - against which patentability is measured is not all drivers broadly, but drivers suitable for use in combination with this collar, for the claims are so limited." Id. at 1073, 828 F.2d at 754.).

Being that the novelty of the present invention is directed to a method of **calibrating a predistortion component in a transceiver system**, the preamble limits the structure of the claimed invention and must be treated as a claim limitation. See, e.g., *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257, 9 USPQ2d 1962, 1966 (Fed. Cir. 1989).

In addition to the above, the limitation in Claim 29, "**predistorting at least one of the first digital signal and the second digital signal in the digital domain according to at least one predistortion parameter**" clearly sets forth a "transforming" step - "predistorting at least one of the first digital signal and the second digital signal in the digital domain according to at least one predistortion parameter". This limitation clearly recites a transformation which qualifies under Supreme Court precedent "**OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing**" above as being an eligible process under 35 U.S.C. § 101. For this reason alone, or in combination with the above argument, the 35 U.S.C. § 101 rejection of Claim 29 is improper and must be withdrawn.

In addition to the above, the additional limitation in Claim 29, "**generating an analog signal from the first digital signal and the second digital signal**", similarly sets forth a "transforming" step - "generating an analog signal from the first digital signal and the second digital signal". This additional limitation clearly recites a transformation which qualifies under Supreme Court precedent "**OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing**" above as being an eligible process under 35 U.S.C. § 101. For this reason alone, or in combination with the above argument, the 35 U.S.C. § 101 rejection of Claim 29 is improper and must be withdrawn.

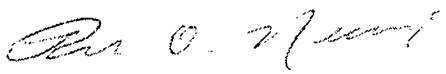
In addition to the above, the additional limitation in Claim 29, "**processing the analog signal at a receiver path associated with the transmitter path to determine values for the at least one predistortion parameter and estimate spectral regrowth of the analog signal**", similarly sets forth a "transforming" step - "processing the analog signal ... to determine values for the at least one predistortion parameter AND estimate spectral regrowth of the analog signal". This additional limitation clearly recites a transformation which qualifies under Supreme Court precedent "**OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing**" above as being an eligible process under 35 U.S.C. § 101. For this reason alone, or in combination with the above arguments, the 35 U.S.C. § 101 rejection of Claim 29 is improper and must be withdrawn.

Claim 30 further defines the circuit of Claim 24, wherein the **means for analyzing measures spectral regrowth of the analog signal**. Claim 30 depends from Claim 24 and stands allowable for the same reasons set forth above in support of the allowability of Claim 24. Moreover, Claim 30 contains an additional limitation not recited in Claim 24. The additional limitation in Claim 25, "wherein the **means for analyzing measures spectral regrowth of the analog signal**", similarly sets forth a "transforming" step - "measuring spectral regrowth of the analog signal". This additional limitation clearly recites a transformation which qualifies under Supreme Court precedent "**OR** (2) **transform underlying subject matter (such as an article or materials) to a different state or thing**" above as being an eligible process under 35 U.S.C. §

101. For this reason alone, or in combination with the above arguments, the 35 U.S.C. § 101 rejection of Claim 30 is improper and must be withdrawn.

Claims 2-11, 16, 19, 20, 27, 28 and 31 are allowed. Claims 22-26, 29 and 30 are allowable for the reasons set forth above. Applicants respectfully request allowance of the application at the earliest possible date.

Respectfully submitted,



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